

Amendment and Response

Applicant: Vladimir Abramov

Serial No.: 10/667,561

Filed: September 22, 2003

Docket No.: T395.101.101

Title: UNIVERSAL MULTIFARIOUS GEARBOX OF MUTUALLY DEFINITE UNITS AND METHOD
THEREFORE

IN THE SPECIFICATION

Please insert the following claim to priority to an earlier filed provisional application at page 1, line 6:

Cross-Reference to Related Application

The subject matter of this application claims priority under 35 U.S.C. §119(e) to the subject matter of U.S. Provisional Patent Application No. 60/412,702, filed September 23, 2002, which is incorporated herein by reference.

Please replace the paragraph beginning at page 9, line 6 with the following rewritten paragraph:

There is a uniform separation in the degree of the common ratio of the gearsets in each unit. The degree of common ratios of separation is calculated based on the number of forward gears or torques in the gearbox divided by the number of gearsets in the unit. In gearbox 100 shown in Fig. 1 there are 4 units A, B, C and D with 2, 2, 2, and 3 gearsets respectively. The common ratio degree of separation in the geometric sequence of the unit A is 12 degrees since there ~~a~~are 2 gearsets in unit A and 24 forward gears, $(24/2=12)$. Therefore the separation in the common ratio of the geometric sequence is of the 12th degree in unit A. If one of the gearsets in unit A has a ratio of 1 the second gearset has ratio of $1/R^{12}$ or R^{12} . Here by design choice the gearsets have the ratios of 1 and $1/R^{12}$. Unit B has 2 gearsets with a separation of 6 degrees in the common ratio of the geometric sequence since there are remaining 12 combinations of gearsets that can be used and 2 gearsets in unit B, $(12/2=6)$. If the first gearset in unit B has a ratio of $1/R^2$, then the second gearset has a ratio of $1/R^8$, which is a common ratio of 6 degrees different from the first gearset. The choice of $1/R^2$ and $1/R^8$ are a matter of design choice but the six degrees of separation is part of the gearbox formula. Since unit C has 2 gearsets with 6 remaining combinations of gearsets, out of the original 24 combinations, there are three degrees of separation in unit C $(6/2=3)$. If the first gearset in unit C has a ratio in the geometric sequence

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of 1 by design choice, then the second gearset will have three degrees of separation such as R^3 or $1/R^3$. In gearbox 100 the ratio selected is $1/R^3$ by design choice. The remaining 3 gearsets have one degree of separation in the common ratio of the geometric sequence. In gearbox 100 the ratios selected in unit D are 1, R and R^2 by design choice. In order for the gearbox to have an input to output ratio of 1 to 1 the gearbox can have a gearset ratio selection in the units of $1 \times 1 \times 1/R^2 \times R^2 = 1$.